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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/743,401

12/22/2003

Timothy J. Dupuis

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12/29/2006

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EXAMINER

NGUYEN, DUC M

ART UNIT

PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/29/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/743,401

Applicant(s)

DUPUIS, TIMOTHY J.

Examiner

Duc M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 7-13, 15, 16, 19, 22-29 and 31-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 14, 18, 20, 21, 30 and 41-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/14, 8/29 and 8/31/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The references listed in the information disclosure statements submitted on 2/14/05, 8/29/05 and 8/31/05 have been considered by the examiner (see attached PTO-1449).

Election/Restrictions

2. Applicant's election of group I, claims 1-6, 14, 18, 20, 21, 30 in the reply filed on 11/13/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Accordingly, claims 7-13, 15-17, 19, 22-29, 31-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/13/06.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by **Nalbantis** (US 2004/0148553).

Regarding claim 14, **Nalbantis** discloses a wireless communication device comprising:

a controller circuit adapted to control the operation of the communication device as claimed (see [0027]-[0033] regarding the scan controller 52);

a transceiver as claimed (see [0027] regarding the transceiver);

an RF power amplifier as claimed (see [0027] regarding the transceiver and the amplifiers which would implicitly teach an RF power amplifier); and

a serial bus coupled to the controller, transceiver, and RF power amplifier as claimed (see [0027]-[0033] regarding the three-pin serial interface for controlling operations of the transceiver such as gain adjust for the amplifiers).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 14, 18, 30, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blake et al** (US 6,847,904).

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Regarding claim 1, **Blake** discloses an RF amplifier formed using an integrated circuit (see Fig. 1 and Abstract), comprising

- A amplifier (see Fig. 1) and
- A serial interface formed using the integrated circuit for sending and receiving signal (see Fig. 1 and col. 5, line 25 – col. 6, line 7).

Although **Blake** does not specifically disclose the PGA amplifier is the power amplifier, one skilled in the art would recognize that an power amplifier would work equally well with Blake's teaching regarding serial interface formed using the integrated circuit. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to apply Blake's teaching to a power amplifier, for utilizing advantages of the serial interface such minimizing pin count of the IC package (see col. 5, lines 55-60). Therefore, the claimed limitation regarding the power amplifier is made obvious by Blake.

Regarding claim 14, the claim is rejected the same reason as set forth in claim 1 above. In addition, since one skilled in the art would recognize that the amplifier circuit as disclosed by Blake would applicable to a wireless transceiver and would work equally well, it would have been obvious to one skilled in the art at the time the invention was made to further modify Blake for providing a transceiver coupled a serial bus as claimed, for utilizing advantages of the serial interface in Blake such as minimizing pin count of the IC package (see col. 5, lines 55-60) for controlling the transceiver.

Regarding claim 18, the claim is rejected the same reason as set forth in claim 14 above. In addition, since **Blake** teaches the serial interface is used control the function

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of the amplifier such as gains, bandwidth, power consumption, input offset correction, frequency response, etc, (see col. 2, lines 23-42 and Fig. 1), it is clear that Blake as modified would obviously teach a band control signal utilizing the serial bus as claimed, in order to select a band based on the band control signal (see Fig. 1 regarding MUX 104).

Regarding claim **30**, the claim is rejected the same reason as set forth in claim 14 above. In addition, since using a baseband controller to adjust the gain of the power amplifier is well known in the art, it would have been obvious to one skilled in the art at the time the invention was made to further modify Blake for providing a baseband controller as claimed, in order to control the output gain of the power amplifier.

Regarding claim **45**, the claim is rejected the same reason as set forth in claims 18, 30 above.

7. Claims **2, 41, 42** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blake** in view of **Nalbantis** (US 2004/0148553).

Regarding claim **2**, the claim is rejected the same reason as set forth in claim 1 above. In addition, since Blake teaches a chip select CS pin for controlling functions either in the "shifting data" mode or in the "latching" data mode (see col. 5, line 55 – col. 6, lines 7), it is clear that the chip select CS pin would act as the mode control pin SEN taught by Nalbantis (see [0030] regarding mode control pin SEN and "shifting data" or "latching" data). Therefore, the claimed limitation regarding the mode control pin is made obvious by Blake and Nalbantis, wherein the "shifting data" mode would read on

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the first mode/function, and the "latching" data mode would read on the second mode/function.

Regarding claim **41**, the mode control pin is rejected the same reason as set forth in claim 2 above.

Regarding claim **42**, the first mode/function and the second mode/function are rejected the same reason as set forth in claim 2 above.

8. Claims **3-4, 20, 43-44** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blake** in view of **Nalbantis** and further in view of **Tomasz (US 6,400,416)**.

Regarding claim **3**, the claim is rejected the same reason as set forth in claim 2 above. In addition, although **Blake** teaches the serial interface is used control the function of the amplifier such as gains, bandwidth, power consumption, input offset correction, frequency response, etc, (see col. 2, lines 23-42), **Blake** is silent with a second interface pin having a first function/mode and a second/function mode.

However, **Tomasz** teaches a method for adjusting the gain of an amplifier, wherein **Tomasz** suggests that the gain may be adjusted either by a dedicated external pin on the IC circuit or via a serial bus (see col. 6, lines 32-42). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to further incorporate **Tomasz's** teaching to **Blake's** as well, for further providing an external pin for controlling the gain of the amplifier as well, thereby providing a second interface pin with a mode control pin as claimed, in order to achieve various control functions for the amplifier either via the external pin or via the serial bus pins.

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Regarding claim **4**, the claim is rejected the same reason as set forth in claim 3 above. In addition, **Blake**, in view of **Tomasz**, as modified would teach the first mode is a serial interface mode (serial input pins) and the second mode is a pin control mode (external pin), in order to controlling the gain of the amplifier via the external pin or via the serial bus pins.

Regarding claim **20**, the claim is rejected the same reason as set forth in claim 4 above.

Regarding claim **43**, the claim is rejected the same reason as set forth in claim 3. above.

Regarding claim **44**, the claim is rejected the same reason as set forth in claim 4 above.

9. Claims **5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blake** in view of **Nalbantis** and further in view of **Richard et al** (US **6,894, 266**).

Regarding claim **5**, the claim is rejected the same reason as set forth in claim 2 above. In addition, since the IC package in Blake would require a power supply to operate, it would have been obvious to one skilled in the art at the time the invention was made to provide the internal voltage source via a control pin as disclosed by **Richard** (see col. 5, lines 32-37 and col. 6, lines 20-35), in order to provide the supply voltage for registers of the IC package while minimizing the number of pins for the IC packages.

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Regarding claim **6**, the claim is rejected the same reason as set forth in claim 5 above. In addition, **Richard** discloses the pin is used to supply power in the serial-in fashion only (see col. 5, lines 37-38).

10. Claims **5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blake** in view of **Nalbantis** and further in view of **Collins et al** (US 5,724,009).

Regarding claim **5**, the claim is rejected the same reason as set forth in claim 2 above. In addition, since the IC package in Blake would require a power supply to operate, it would have been obvious to one skilled in the art at the time the invention was made to provide the internal voltage source via a control pin as disclosed by **Collins** (see col. 2, line 58 – col. 3, line 7), in order to provide the supply voltage for digital circuitry (registers) of the IC package while minimizing the number of pins for the IC packages.

Regarding claim **6**, the claim is rejected the same reason as set forth in claim 5 above. In addition, since the supply voltage is used for operating the digital circuitry, it is clear that it is used as internal voltage source only for serial data input (shifting data mode).

11. Claim **21** is rejected under 35 U.S.C. 103(a) as being unpatentable by **Blake** in view of **Nalbantis** and **Tomasz**, and further in view of **Collins et al** (US 5,724,009).

Regarding claim **21**, the claim is rejected the same reason as set forth in claim 20 above. In addition, since the IC package in Blake would require a power supply to

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operate, it would have been obvious to one skilled in the art at the time the invention was made to provide the internal voltage source via a control pin as disclosed by **Collins** (see col. 2, line 58 – col. 3, line 7), in order to provide the supply voltage for digital circuitry (registers) of the IC package while minimizing the number of pins for the IC packages.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gronemeyer (US 2004/0162102), Serial radio frequency to baseband interface with programmable clock.

Bell (US 5,642,075), Sampled data automatic gain control.

Lee (2003/0152056), Packetized audio data operations in a wireless local area network device.

Tsutsui (US 2005/0218989), High-frequency Power amplifier circuit and electronic part for communication.

Molnar et al (US 2002/0142741), Low power digital interface.

Galpin (US 4,360,787), Digitally controlled wide range AGC.

Jensen (US 5,159,283), Power amplifier.

13. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

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(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

Hand-delivered responses should be brought to Customer Service Window,
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner
should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893,
Monday-Thursday (9:00 AM - 5:00 PM).

Or to Matthew Anderson (Supervisor) whose telephone number is (571) 272-
4177.

Duc M. Nguyen, P.E.

Dec 18, 2006

